

Table 1: 72 pesticide compounds USGS and USEPA agree on retaining or adding to the reduced laboratory schedule.

NWIS parameter code	Compound name	Use group*	Pesticide or degradate
68500	2,4-D	H	Pesticide
68659	2-Hydroxy-4-isopropylamino-6-amino-s-triazine	H	Degradate
68660	2-Hydroxyatrazine	H	Degradate
68336	4-Hydroxychlorothalonil	F	Degradate
68519	Acephate	I	Pesticide
68302	Acetamiprid	I	Pesticide
68520	Acetochlor	H	Pesticide
68522	Acetochlor OA	H	Degradate
68523	Acetochlor SA	H	Degradate
65065	Atrazine	H	Pesticide
67550	Boscalid	F	Pesticide
65069	Carbaryl	I	Pesticide
68548	Carbendazim	F	Degradate
51856	Chlorantraniliprole	I	Pesticide
65072	Chlorpyrifos	I	Pesticide
68553	cis-Cyhalothric acid	I	Degradate
68221	Clothianidin	I	Pesticide
51862	Cyantraniliprole	I	Pesticide
67574	Cyprodinil	F	Pesticide
68562	Dechlorometolachlor	H	Degradate
68552	Deethylatrazine	H	Degradate
68550	Deisopropylatrazine	H	Degradate
66607	Desulfinylfipronil	I	Degradate
65078	Diazinon	I	Pesticide
68572	Dichlorvos	I	Degradate
68547	Didealkylatrazine (CAAT)	H	Degradate
66596	Dimethoate	I	Pesticide
68379	Dinotefuran	I	Pesticide
66598	Diuron	H	Pesticide
68596	Ethoprop	I	Pesticide
66604	Fipronil	I	Pesticide
68604	Fipronil amide	I	Degradate
66610	Fipronil sulfide	I	Degradate
66613	Fipronil sulfone	I	Degradate
68608	Fluometuron	H	Pesticide
68622	Hydroxymetolachlor	H	Degradate
68624	Hydroxysimazine	H	Degradate
68426	Imidacloprid	I	Pesticide
68639	Linuron	H	Pesticide

NWIS parameter code	Compound name	Use group*	Pesticide or degradate
65087	Malathion	I	Pesticide
68437	Metalaxyl	F	Pesticide
68644	Methamidophos	I	Pesticide
68645	Methomyl	I	Pesticide
68647	Methoxyfenozide	I	Pesticide
65090	Metolachlor	H	Pesticide
68650	Metolachlor OA	H	Degradate
68651	Metolachlor SA	H	Degradate
68652	Metribuzin	H	Pesticide
66632	Myclobutanil	F	Pesticide
67702	Prometon	H	Pesticide
68678	Propazine	H	Pesticide
66643	Propiconazole	F	Pesticide
68679	Propoxur	I	Pesticide
65105	Simazine	H	Pesticide
68687	Sulfentrazone	H	Pesticide
68688	Sulfometuron-methyl	H	Pesticide
68693	Tebupirimfos	I	Pesticide
68699	Terbufos	I	Pesticide
68703	Terbufos sulfone	I	Degradate
68704	Terbufos sulfoxide	I	Degradate
68245	Thiamethoxam	I	Pesticide
65107	Thiobencarb	H	Pesticide
52652	Benzovindiflupyr	F	Pesticide
68543	Bromoxynil	H	Pesticide
68571	Dicamba	H	Pesticide
68598	Etoxazole	I	Pesticide
68578	Isoxaflutole degradate (Benzenepropanenitrile, .alpha.- (cyclopropylcarbonyl)- 2-(methylsulfonyl)- .beta.- oxo-4- (trifluoromethyl)	H	Degradate
68663	Oryzalin	H	Pesticide
65102	Piperonyl butoxide	I	Pesticide
52657	Sulfoxaflor	I	Pesticide
68708	Trans-permethrin	I	Pesticide
68769	Cis-permethrin	I	Pesticide

*F, fungicide; H, herbicide; and I, insecticide

Table 2: 36 pesticide compounds for which USGS and USEPA have different recommendations for removing (23) or adding (13) compounds to the reduced laboratory schedule (USGS rationale for these differences is included).

NWIS parameter code	Compound name	Use group*	Pesticide or degradate	Parent compound	USEPA comment	USGS action	USGS rationale**
68498	1H-1,2,4-Triazole	F	Degradate	Propiconazole	Drop	Retain at low priority	Frequently detected when analysis is successful
68873	3-Phenoxybenzoic acid	I	Degradate	Permethrin	Drop	Retain at low priority	Permethrin degradate; Important factor in ecological models using POCIS results
52651	Aminocyclopyrachlor	H	Pesticide	Aminocyclopyrachlor	Drop	Retain at high priority	Non-agricultural use; detected in more than 10% of CSQA samples (not yet used for NWQN or NGMN)
66589	Azoxystrobin	F	Pesticide	Azoxystrobin	Drop	Retain at high priority	Increasing agricultural use; detected in >50% NWQN and >30% RSQA samples
68538	Bentazon	H	Pesticide	Bentazone	Drop	Retain at high priority	Steady agricultural use; detected in >20% NWQN, >15% RSQA, and >1% NGMN samples
68542	Bromacil	H	Pesticide	Bromacil	Drop	Retain at high priority	Declining agricultural use, but detected in >30% NWQN, >10% RSQA, and >1% NGMN samples
68872	Chlorimuron-ethyl	H	Pesticide	Chlorimuron-ethyl	Drop	Retain at high priority	Recent increased agricultural use; Detected in >5% NWQN; >10% RSQA, and <1% NGMN samples
68573	Diclotophos	I	Pesticide	Diclotophos	Drop	Retain at high priority	Fluctuating agricultural use; detected in >1% NWQN samples; max surface water exceeds HHB and ALB

NWIS parameter code	Compound name	Use group*	Pesticide or degradate	Parent compound	USEPA comment	USGS action	USGS rationale**
68576	Diflubenzuron	I	Pesticide	Diflubenzuron	Drop	Retain at low priority	Low agricultural use; detected in <1% NWQN and RSQA samples, but has exceeded ALB
68580	Dimethenamid	H	Pesticide	Dimethenamid	Drop	Retain at high priority	Increased agricultural use; Detected in >30% NWQN, >20% RSQA, and <1% NGMN samples
68373	Dimethomorph	F	Pesticide	Dimethomorph	Drop	Retain at high priority	Increasing agricultural use; Detected in >5% CSQA samples (not yet used for NWQN or NGMN)
51852	Fluopicolide	F	Pesticide	Fluopicolide	Drop	Retain at low priority	Low agricultural use; Detected in >5% CSQA samples (not yet used for NWQN or NGMN)
61680	Halosulfuron-methyl	H	Pesticide	Halosulfuron-methyl	Drop	Retain at low priority	Low, but increasing agricultural use; detected in <1% NWQN and RSQA samples, but has exceeded ALB
65085	Hexazinone	H	Pesticide	Hexazinone	Drop	Retain at high priority	Steady agricultural use; detected in >10% NWQN, >10% RSQA, and >5% NGMN samples
61683	Imazethapyr	H	Pesticide	Imazethapyr	Drop	Retain at high priority	Increasing agricultural use; Detected in >20% NWQN, >10% RSQA; and >1% NGMN samples
66620	Metconazole	F	Pesticide	Metconazole	Drop	Retain at high priority	Increasing agricultural use; Detected in > 1% NWQN and RSQA samples
66646	Pyraclostrobin	F	Pesticide	Pyraclostrobin	Drop	Retain at high priority	Fluctuating agricultural use; Detected in >5% NWQN and RSQA samples; Aquatic life toxicity concerns

NWIS parameter code	Compound name	Use group*	Pesticide or degradate	Parent compound	USEPA comment	USGS action	USGS rationale**
67717	Pyrimethanil	F	Pesticide	Pyrimethanil	Drop	Retain at low priority	Increasing, but low agricultural use; Detected in >5% CSQA (not yet used for NWQN or NGMN)
66649	Tebuconazole	F	Pesticide	Tebuconazole	Drop	Retain at high priority	Increasing agricultural use; Detected in >15% NWQN and >5% RSQA samples
68695	Tebuthiuron	H	Pesticide	Tebuthiuron	Drop	Retain at high priority	Significant non-agricultural use; Detected in >30% NWQN, >15% RSQA, and >1% NGMN samples
66654	Tetraconazole	F	Pesticide	Tetraconazole	Drop	Retain at low priority	Low, but steady agricultural use; Detected in >1% NWQN and RSQA samples
68712	Triclopyr	H	Pesticide	Triclopyr	Drop	Retain at high priority	Steady agricultural use; significant non-ag use; Detected in >10% NWQN and RSQA samples
66660	Trifloxystrobin	F	Pesticide	Trifloxystrobin	Drop	Retain at high priority	Increasing agricultural use; Detected in >1% NWQN and RSQA; toxicity concerns - cladocera and fish
68528	Aldicarb	I	Pesticide	Aldicarb	Add	Not added	Agricultural use sharply declined; detected in <0.1% NWQN and RSQA samples
68529	Aldicarb sulfone	I	Degradate	Aldicarb	Add	Not added	Agricultural use sharply declined for parent; detected in <1% of NWQN and <0.1% RSQA and NGMN samples
68530	Aldicarb sulfoxide	I	Degradate	Aldicarb	Add	Not added	Agricultural use sharply declined for parent; detected in <1% NWQN, RSQA, and NGMN samples

NWIS parameter code	Compound name	Use group*	Pesticide or degradate	Parent compound	USEPA comment	USGS action	USGS rationale**
68216	Chlorpyrifos oxon	I	Degradate	Chlorpyrifos	Add	Not added	Detected in <1% NWQN, RSQA, and NGMN samples
68564	Deisopropyl Prometryn	H	Degradate	Prometryn	Add	Not added	Detected in <2 % NWQN and <1% RSQA and NGMN samples; no benchmarks
68591	Demethyl fluometuron	H	Degradate	Fluometuron	Add	Not added	Detected in < 5% NWQN, <1% RSQA, <2% NGMN samples; no benchmarks
52782	Imidacloprid-olefin	I	Degradate	Imidacloprid	Add	Not added	Detected in <1% CSQA; no benchmarks (not yet used for NWQN or NGMN)
68664	Oxamyl	I	Pesticide	Oxamyl	Add	Not added	Low agricultural use; Detected in <1% NWQN, RSQA, and NGMN samples
65093	Oxyfluorfen	H	Pesticide	Oxyfluorfen	Add	Not added	Low agricultural use; Detected in <1% NWQN, RSQA, and NGMN samples
68668	Phorate	I	Pesticide	Phorate	Add	Not added	Low agricultural use; Detected in <1% NWQN, RSQA, and NGMN samples
65103	Prometryn	H	Pesticide	Prometryn	Add	Not added	Low agricultural use; Detected in <7% NWQN, <2% RSQA, and <1% NGMN samples.
68694	Tebupirimphos oxon	I	Degradate	Tebupirimfos	Add	Not added	Detected in <1% NWQN, RSQA, and NGMN samples
68551	Chlorosulfonamide acid	H	Degradate	Halosulfuron-methyl	Add	Not added	Detected in <1% NWQN, RSQA, and NGMN samples

*F, fungicide; H, herbicide; and I, insecticide

**ALB, Aquatic Life Benchmark; CSQA, California Stream Quality Assessment; HHB, Human Health Benchmark; POCIS, Polar Organic Chemical Integrative Sampler; NGMN, National Groundwater Monitoring Network; NWQN, National Water Quality Network; and RSQA, Regional Stream Quality Assessment

Table 3. 7 new pesticide compounds that USEPA recommended that were not added to the full list of recommended analytes for the reduced pesticide schedule because of the need for potential method development.

Compound name	Pesticide or degradate	Parent compound	USEPA comment	USGS action	USGS rationale
Afidopyropen	Pesticide	Afidopyropen	Add	Not added	New analyte - Agricultural use pattern unknown
Aminopyralid	Pesticide	Aminopyralid	Add	Not added	New from USEPA (questionable analytical performance previously) - Increasing agricultural use
Flupyradifurone	Pesticide	Flupyradifurone	Add	Not added	New analyte - Agricultural use pattern developing
Iprodione	Pesticide	Iprodione	Add	Not added	New from USEPA (questionable analytical performance previously) - Steady, but low agricultural use pattern
Oxytetracycline	Pesticide	Oxytetracycline	Add	Not added	New analyte - Used as human and veterinary antibiotic, as well as a pesticide; consider adding to another schedule
X11519540 Degradate: 5-(1-methanesulfonyl-ethyl)-2-trifluoromethyl-pyridine	Degradate	Sulfoxaflor	Add	Not added	New analyte - No, degradates not a priority unless doing fate studies
X11719474 Degradate	Degradate	Sulfoxaflor	Add	Not added	New analyte - No, degradates not a priority unless doing fate studies

Table 4. Current full list of 96 recommended analytes for the reduced pesticide schedule (70 Tier 1; 26 Tier 2).

NWIS parameter code	Compound name	Use group*	Pesticide or degradate	Parent compound	Priority for schedule**
68498	1H-1,2,4-Triazole	F	Degradate	Propiconazole	Tier 2
68500	2,4-D	H	Pesticide	2,4-D	Tier 1
68659	2-Hydroxy-4-isopropylamino-6-amino-s-triazine	H	Degradate	Atrazine	Tier 1
68660	2-Hydroxyatrazine	H	Degradate	Atrazine	Tier 1
68873	3-Phenoxybenzoic acid	I	Degradate	Permethrin	Tier 2
68336	4-Hydroxychlorothalonil	F	Degradate	Chlorothalonil	Tier 1
68519	Acephate	I	Pesticide	Acephate	Tier 1
68302	Acetamiprid	I	Pesticide	Acetamiprid	Tier 1
68520	Acetochlor	H	Pesticide	Acetochlor	Tier 1
68522	Acetochlor OA	H	Degradate	Acetochlor	Tier 2
68523	Acetochlor SA	H	Degradate	Acetochlor	Tier 2
52651	Aminocyclopyrachlor	H	Pesticide	Aminocyclopyrachlor	Tier 1
65065	Atrazine	H	Pesticide	Atrazine	Tier 1
66589	Azoxystrobin	F	Pesticide	Azoxystrobin	Tier 1
68538	Bentazon	H	Pesticide	Bentazone	Tier 1
52652	Benzovindiflupyr	F	Pesticide	Benzovindiflupyr	Tier 1
67550	Boscalid	F	Pesticide	Boscalid	Tier 1
68542	Bromacil	H	Pesticide	Bromacil	Tier 1
68543	Bromoxynil	H	Pesticide	Bromoxynil	Tier 2
65069	Carbaryl	I	Pesticide	Carbaryl	Tier 1
68548	Carbendazim	F	Degradate	Thiophanate-methyl	Tier 1
51856	Chlorantraniliprole	I	Pesticide	Chlorantraniliprole	Tier 1
68872	Chlorimuron-ethyl	H	Pesticide	Chlorimuron-ethyl	Tier 1
65072	Chlorpyrifos	I	Pesticide	Chlorpyrifos	Tier 1
68553	cis-Cyhalothric acid	I	Degradate	Bifenthrin; lambda-cyhalothrin; Tefluthrin	Tier 1
68769	Cis-permethrin	I	Pesticide	Permethrin	Tier 2
68221	Clothianidin	I	Pesticide	Clothianidin	Tier 1
51862	Cyantraniliprole	I	Pesticide	Cyantraniliprole	Tier 1
67574	Cyprodinil	F	Pesticide	Cyprodinil	Tier 1
68562	Dechlorometolachlor	H	Degradate	Metolachlor	Tier 1
68552	Deethylatrazine	H	Degradate	Atrazine	Tier 1
68550	Deisopropylatrazine	H	Degradate	Atrazine	Tier 1
66607	Desulfinylfipronil	I	Degradate	Fipronil	Tier 1
65078	Diazinon	I	Pesticide	Diazinon	Tier 1
68571	Dicamba	H	Pesticide	Dicamba	Tier 2
68572	Dichlorvos	I	Degradate	Naled	Tier 1
68573	Dicrotophos	I	Pesticide	Dicrotophos	Tier 1

NWIS parameter code	Compound name	Use group*	Pesticide or degradate	Parent compound	Priority for schedule**
68547	Didealkylatrazine (CAAT)	H	Degradate	Atrazine	Tier 1
68576	Diflubenzuron	I	Pesticide	Diflubenzuron	Tier 2
68580	Dimethenamid	H	Pesticide	Dimethenamid	Tier 1
66596	Dimethoate	I	Pesticide	Dimethoate	Tier 1
68373	Dimethomorph	F	Pesticide	Dimethomorph	Tier 1
68379	Dinotefuran	I	Pesticide	Dinotefuran	Tier 1
66598	Diuron	H	Pesticide	Diuron	Tier 1
68596	Ethoprop	I	Pesticide	Ethoprop	Tier 1
68598	Etoxazole	I	Pesticide	Etoxazole	Tier 2
66604	Fipronil	I	Pesticide	Fipronil	Tier 1
68604	Fipronil amide	I	Degradate	Fipronil	Tier 2
66610	Fipronil sulfide	I	Degradate	Fipronil	Tier 1
66613	Fipronil sulfone	I	Degradate	Fipronil	Tier 1
68608	Fluometuron	H	Pesticide	Fluometuron	Tier 2
51852	Fluopicolide	F	Pesticide	Fluopicolide	Tier 2
61680	Halosulfuron-methyl	H	Pesticide	Halosulfuron-methyl	Tier 2
65085	Hexazinone	H	Pesticide	Hexazinone	Tier 1
68622	Hydroxymetolachlor	H	Degradate	Metolachlor	Tier 2
68624	Hydroxysimazine	H	Degradate	Simazine	Tier 2
61683	Imazethapyr	H	Pesticide	Imazethapyr	Tier 1
68426	Imidacloprid	I	Pesticide	Imidacloprid	Tier 1
68578	Isoxaflutole degradate (Benzenepropanenitrile, .alpha.- (cyclopropylcarbonyl)- 2-(methylsulfonyl)- .beta.- oxo-4- (trifluoromethyl)	H	Degradate	Isoxaflutole	Tier 2
68639	Linuron	H	Pesticide	Linuron	Tier 2
65087	Malathion	I	Pesticide	Malathion	Tier 1
68437	Metalaxyl	F	Pesticide	Metalaxyl	Tier 1
66620	Metconazole	F	Pesticide	Metconazole	Tier 1
68644	Methamidophos	I	Pesticide	Methamidophos	Tier 1
68645	Methomyl	I	Pesticide	Methomyl	Tier 1
68647	Methoxyfenozide	I	Pesticide	Methoxyfenozide	Tier 1
65090	Metolachlor	H	Pesticide	Metolachlor	Tier 1
68650	Metolachlor OA	H	Degradate	Metolachlor	Tier 1
68651	Metolachlor SA	H	Degradate	Metolachlor	Tier 1
68652	Metribuzin	H	Pesticide	Metribuzin	Tier 1
66632	Myclobutanil	F	Pesticide	Myclobutanil	Tier 1
68231	N-(3,4-Dichlorophenyl)-N-methylurea	H	Degradate	Diuron	Tier 2

NWIS parameter code	Compound name	Use group*	Pesticide or degradate	Parent compound	Priority for schedule**
68231	N-(3,4-Dichlorophenyl)-N-methylurea	H	Degradate	Diuron	Tier 2
68663	Oryzalin	H	Pesticide	Oryzalin	Tier 2
65102	Piperonyl butoxide	I	Pesticide	Piperonyl butoxide	Tier 1
67702	Prometon	H	Pesticide	Prometon	Tier 1
68678	Propazine	H	Pesticide	Propazine	Tier 1
66643	Propiconazole	F	Pesticide	Propiconazole	Tier 1
68679	Propoxur	I	Pesticide	Propoxur	Tier 1
66646	Pyraclostrobin	F	Pesticide	Pyraclostrobin	Tier 1
67717	Pyrimethanil	F	Pesticide	Pyrimethanil	Tier 2
65105	Simazine	H	Pesticide	Simazine	Tier 1
68687	Sulfentrazone	H	Pesticide	Sulfentrazone	Tier 1
68688	Sulfometuron-methyl	H	Pesticide	Sulfometuron-methyl	Tier 1
52657	Sulfoxaflor	I	Pesticide	Sulfoxaflor	Tier 1
66649	Tebuconazole	F	Pesticide	Tebuconazole	Tier 1
68693	Tebupirimfos	I	Pesticide	Tebupirimfos	Tier 1
68695	Tebuthiuron	H	Pesticide	Tebuthiuron	Tier 1
68699	Terbufos	I	Pesticide	Terbufos	Tier 2
68703	Terbufos sulfone	I	Degradate	Terbufos	Tier 2
68704	Terbufos sulfoxide	I	Degradate	Terbufos	Tier 2
66654	Tetraconazole	F	Pesticide	Tetraconazole	Tier 2
68245	Thiamethoxam	I	Pesticide	Thiamethoxam	Tier 1
65107	Thiobencarb	H	Pesticide	Thiobencarb	Tier 2
68708	Trans-permethrin	I	Pesticide	Permethrin	Tier 2
68712	Triclopyr	H	Pesticide	Triclopyr	Tier 1
66660	Trifloxystrobin	F	Pesticide	Trifloxystrobin	Tier 1

*F, fungicide; H, herbicide; and I, insecticide

**Tier 1, High priority for reduced pesticide schedule; Tier 2, Lower priority for reduced pesticide schedule